

What is claimed is:

1. An optical interference display unit at least comprising:
 - a first electrode;
 - a second electrode, wherein the second electrode is settled in parallel with the first electrode; and
 - posts located between the first electrode and the second electrode to form a cavity,
wherein a thickness of the second electrode is adjusted so that a stress of the second electrode is varied to define a corresponding length of the cavity after treating the second electrode by a thermal process.
2. The optical interference display unit of claim 1, wherein the thermal process is baking.
3. The optical interference display unit of claim 1, wherein the thermal process makes the second electrode to generate displacement due to stress.
4. The optical interference display unit of claim 1, wherein the second electrode is a deformable electrode.
5. The optical interference display unit of claim 1, wherein the second electrode is a movable electrode.
6. The optical interference display unit of claim 1, wherein the material for forming the posts is a photoresist.

7. The optical interference display unit of claim 1, wherein a material for forming the second electrode is conductive transparent material, metal, conductive opaque material, conductive hemi-transparent material or dielectric material.

8. The optical interference display unit of claim 1, wherein the posts further comprise arms located under the second electrode.

9. A method for manufacturing a matrix color optical interference display unit disposed on a substrate, the method comprising:

forming a first electrode on the substrate;

forming a sacrificial layer on the first electrode;

forming at least four openings in the sacrificial layer and the first electrode to define positions of a first optical interference display unit, a second optical interference display unit, and a third optical interference display unit;

forming a post in each of the openings;

forming at least one first electrode layer on the sacrificial layer and the posts;

forming at least one second electrode layer on the first electrode layer located on the second optical interference display unit and the third optical interference display unit;

forming at least one third electrode layer on the second electrode layer located on the third optical interference display unit;

performing a thermal process; and

removing the sacrificial layer.

10. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the first electrode layer forms the second electrode of the first optical interference display unit.

11. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the first electrode layer and the second electrode layer form the second electrode of the second optical interference display unit.

12. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the first electrode layer, the second electrode layer and the third electrode layer form the second electrode of the second optical interference display unit.

13. The method for manufacturing a matrix color optical interference display unit of claim 10, wherein a material for forming the posts is selected from a group consisting of photosensitive materials, non-photosensitive materials and a combination thereof.

14. The method for manufacturing a matrix color optical interference display unit of claim 13, wherein the photosensitive materials are a photoresist.

15. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the post comprises a support and at least one arm.

16. The method for manufacturing a matrix color optical interference display unit of claim 15, wherein the step of forming the post further comprises:

forming a first photosensitive material layer to fill the openings and cover the sacrificial layer; and

patterning the first photosensitive material layer to form the support in each of the openings and the arm on the support.

17. The method for manufacturing a matrix color optical interference display unit of claim 13, wherein the step of patterning the first photosensitive material layer includes a photolithographic process.

18. The method for manufacturing a matrix color optical interference display unit of claim 15, wherein the step for forming the support and the arm further comprises:

forming a first non-photosensitive material layer to fill the openings and cover the sacrificial layer; and

patterning the first non-photosensitive material layer to form the support in each of the openings and the arm on the support by a photolithographic etch process.

19. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the thermal process is baking.

20. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the thermal process makes the second electrode to generate displacement due to stress.

21. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the second electrode is a deformable electrode.

22. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein the second electrode is a movable electrode.

23. The method for manufacturing a matrix color optical interference display unit of claim 9, wherein a material for forming the second electrode is conductive transparent material, metal, conductive opaque material, conductive hemi-transparent material or dielectric material.